

Geometry

School Year: 2020-2021

Instructor(s): Mrs. Hagler

Room: 706

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Course Description: This is the second course in a sequence of courses designed to provide students with a rigorous program of study in mathematics. The focus of Geometry is organized into 6 critical areas. Transformations on the coordinate plane provide opportunities for the formal study of congruence and similarity. The study of similarity leads to an understanding of right triangle trigonometry & Pythagorean relationships. The study of circles uses similarity and congruence to develop basic theorems relating circles and lines. Circles return with their algebraic representations on the coordinate plane. Area & perimeter are also explored on the coordinate plane and lead to the study of volume and density. The link between probability and data is explored through conditional probability.

Prerequisite: Algebra I

Instructional Philosophy: The Geometry curriculum is both extensive and comprehensive. Time is a crucial commodity and it must be spent judiciously. Students are expected to stay focused on learning the standards and achieving proficiency. “Way Back” quizzes will be assigned regularly throughout the year to help students with retention of the standards taught and achieving proficiency. Students will complete benchmark tests throughout the year. The data from these tests and others will allow me to differentiate for students. If needed, students will participate in remediation before school, after school, during ELT/PRIDE period, or during Saturday school. My expectation is that every student will show mathematical growth and gain crucial mathematical knowledge needed to be successful in high school and college or technical mathematics.

Course Goals:

Upon completion of the course, students will be able to:

- Identify and draw transformation on the coordinate plane.
- Represent transformations as functions with one point being the input and outputting a new point.
- Understand similarity in terms of similarity transformations.
- Prove theorems involving similarity.
- Understand congruence in terms of rigid motions.
- Prove geometric theorems.
- Make geometric constructions.
- Define trigonometric ratios and solve problems involving right triangles.
- Understand and apply theorems about circles.
- Find arc lengths and areas of sectors of circles.
- Explain volume formulas and use them to solve problems.
- Use coordinates to prove simple geometric theorems algebraically.
- Use coordinates to find area and perimeter of a given figure
- Understand independence and conditional probability and use them to interpret data.
- Use the rules of probability to compute probabilities of compound events in a uniform probability model.

Grading Scale:

A: 90 & above: Outstanding quality of work, on time, almost all problems worked out correctly

B: 80-89: Above average quality, on time, some mistakes in worked problems

C: 70-79: Average quality, on time, frequent mistakes in worked problems but concepts generally understood

Course Assessment:

Nine Weeks Grade = 50% (Tests) + 50% (Other)

1st Semester Grade = (1st 9 weeks + 2nd 9 weeks) ÷ 2 x 80% + Final Exam x 20%

2nd Semester Grade = (3rd 9 weeks + 4th 9 weeks) ÷ 2 x 80% + Final Exam x 20%

(The exam exemption policy found in the LCHS handbook will be utilized.)

Supplies:

- 2 inch, 3-ring binder - This binder should contain all materials at all times.
- notebook paper and pencils
- ruler (shows both centimeters and inches)
- project supplies - These will be announced as needed.
- compass – Compasses and rulers will be available for purchase through the math department for \$5.00.
- calculator - scientific calculator TI-36X Pro (You can purchase one through the math department for \$25.00. All checks need to be made out to LCHS.)

Homework: Homework may be assigned as necessary. Homework will include but not be limited to problems from the unit, viewing teacher assigned videos, and completing online assignments. Homework is assigned to give students adequate opportunity to practice the application of new skills, integrate new skills with previously learned skills, and prepare for a new topic. There will be frequent opportunities in class for students to get any questions regarding homework cleared up; this assumes students are keeping up with the homework. All work must be shown on assignments. Homework will be graded upon completion.

Make up, redo, extra credit, and extra help:

- The school's make up policy for absences (found in the student handbook) will be followed.
- Students needing extra help can talk with the teacher and help will be provided at an agreed upon time, usually just before, just after school, or during ELT/PRIDE period.
- **Students will not be allowed retake opportunities due to a lack of participation and/or inappropriate classroom behavior.**

Parent/Guardian and Teacher Communication:

- Any parent/guardian wishing to speak with me can either email me at haglerbr@lee.k12.ga.us or call me at the school, 903-2260.
- REMIND: Remind is an application that will be used to send notifications of upcoming assignments and tests to parents via text message. Instructions will be given during open house and on the first day of school for joining the Remind text list.